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Global Aviation Information Network

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Description of GAIN

The Global Aviation Information Network is an industry-led international coalition of airlines, manufacturers, employee groups, governments and other aviation organizations formed to promote and facilitate the voluntary collection and sharing of safety information by and among users in the international aviation community to improve aviation safety. Nearly 600 aviation safety professionals from 37 countries have participated in the GAIN program.

The GAIN concept was proposed by the Federal Aviation Administration in May 1996 as a way to significantly improve aviation safety through the enhanced use of safety information. The GAIN philosophy is that the collection, analysis, and sharing of safety information using advanced technologies in a jeopardy-free environment will illuminate safety concerns and permit identification and implementation of cost-effective mitigations.

GAIN World Conferences

The first GAIN World Conference, sponsored by the FAA, was held in Cambridge, Massachusetts, in October 1996 and attracted 153 participants. This first conference focused on "brainstorming" sessions in which participants shared ideas on how the GAIN concept should move forward and helped create the foundation for GAIN.

The second conference was held in London, England, in May 1997. It was jointly sponsored by the FAA, the UK CAA, and the Royal Aeronautical Society and attracted 166 participants. At this second conference, GAIN participants discussed some existing information sharing success stories, impediments to implementing GAIN, and potential solutions.

GAIN momentum continued to build and the Third GAIN World Conference was held in Long Beach, CA, in November 1998. Sponsored by United Airlines, this conference attracted approximately 200 people representing over 100 aviation organizations from 17 countries. Even more impressive, 33 airlines attended this third gathering of aviation safety professionals from around the world. A major activity at this conference was a collaborative discussion session among all participants that lead to the documentation of desired outcomes for GAIN and suggested tasks to achieve those outcomes. This activity spurred the creation of charters for four GAIN Working Groups, whose subsequent accomplishments have been recognized by the aviation community.

These Working Group accomplishments were the major topics of the Fourth GAIN World Conference, held in Paris, France, June 14-15, 2000. Hosted by Air France and Airbus Industrie, this conference attracted more than 175 aviation safety professionals from 28 airlines, 8 airframe and engine manufacturers, 5 avionics suppliers, 20 government organizations, and 41 other aviation organizations. People from 23 countries attended the conference.

True to the conference theme of "Safety Information Sharing: Concept to Products," several initial products from the implementation of GAIN were presented to conference participants to expand the collection, analysis, and sharing of aviation safety information. The Aviation Operator Safety Practices Working Group provided every conference attendee with a CD-ROM containing a 236-page "Operator's Flight Safety Handbook" and discussed how to use it most effectively. The Analytical Methods and Tools Working Group demonstrated various analytical tools that are being used by airlines to extract useable information from various types of safety data. The Global Information Sharing Prototypes Working Group demonstrated two prototype systems that can securely exchange airline safety event reports within trusted groups in near-real time. Conference workshops also featured a demonstration of a GAIN web site with links to 100 publicly available aviation safety data and information web sites from around the world and descriptions of about 60 methods and tools that can be used to analyze safety data. The Reducing Impediments Working Group announced at the conference that their efforts resulted in a recommendation in ICAO Annex 13 that "States should promote the establishment of safety information sharing networks among all users of the aviation system and should facilitate the free exchange of information on actual and potential safety deficiencies."

GAIN Organization

The GAIN organization consists of the Steering Committee, Working Groups, Program Office, and a newly formed Government Support Team.

The **Steering Committee** consists of industry stakeholders (airlines, manufacturers, employee groups and their trade associations) that set high-level GAIN policy, issue charters to direct the Working Groups, and guide the Program Office. Represented on the GAIN Steering Committee are Air France, British Airways, Continental Airlines, Japan Airlines, Northwest Airlines, Airbus Industrie, The Boeing Company, Air Line Pilots Association (ALPA), Air Transport Association of America (ATA), Flight Safety Foundation, International Association of Machinists (IAM), National Business Aviation Association (NBAA), National Air Traffic Controller Association (NATCA), and the U.S. Military (Navy Aviation Safety). The FAA serves as an ex-officio member of the Committee. Tim Logan of Northwest Airlines is the current Steering Committee chair and Bertrand de Courville from Air France is Vice-Chair. The Steering Committee meets on a quarterly basis.

The **Executive Committee** is comprised of several Steering Committee members and acts on behalf of the whole Steering Committee on administrative matters or as directed.

The **Working Groups** are interdisciplinary industry/government teams that work GAIN issues in a largely autonomous fashion, within the charters established for them by the Steering Committee. Working Groups are discussed further below.

The **Program Office** provides technical and administrative support to the Steering Committee, Working Groups, and the Government Support Team.

A proposal for the **Government Support Team** (GST) was presented at the Fourth GAIN World Conference in June 2000. The Steering Committee will develop a draft GST charter and solicit participation from governments in September 2000. The GST is expected to promote and facilitate sharing networks around the world; identify legal and organizational barriers to GAIN objectives and develop solutions to them; and encourage government organizations to provide technical and administrative resources to support the development and implementation of GAIN.

2000-2001 GAIN Action Plan

The GAIN Steering Committee has developed a 2000-2001 GAIN Action Plan that builds on the initial accomplishments of the GAIN program and incorporates recent suggestions from GAIN participants. This plan lays out specific tasks to be accomplished or initiated by 2001 that demonstrate how GAIN will:

A) Assist aviation operators in obtaining, implementing & sharing industry "best practices"
(assigned to GAIN Working Group A)
B) Foster the use of existing analytical methods and tools and the development of new tools
(assigned to GAIN Working Group B)
C) Promote and facilitate the development and implementation of systems to support the global sharing of aviation safety information
(assigned to GAIN Working Group C)
D) Foster GAIN goals and reduce impediments to sharing
(assigned to Government Support Team)
E) Support the GAIN program and infrastructure and try to expand it
(assigned to GAIN Steering Committee).

GAIN Working Groups

The three GAIN Working Groups (WGs) will assist the Steering Committee in implementing the action plan. The Steering Committee gives each WG a Charter to define its responsibilities and the WG develops a Work Plan to accomplish the tasks laid out in the Charter. Each WG meets every 2 to 3 months to plan activities, report progress, and exchange ideas. WG members perform the work to create GAIN products between meetings. The WGs report progress and concerns back to the Steering Committee.

The accomplishments and proposed tasks for the GAIN WGs are as follows:

WG A: Aviation Operator Safety Practices - This group developed the Operator's Flight Safety Handbook (OFSH) to help operators obtain information on starting, improving, or expanding their internal aviation safety programs. The OFSH includes commonly accepted standards and best operating practices, methods, procedures, tools and guidelines for use by flight safety officers and managers. Through October 2001, the working group plans to do the following: Incorporate into the OFSH business cases for collecting and sharing safety information; expand the subject matter addressed in this effort, as appropriate, by soliciting various "expert" members for the development of additional appendices to the OFSH that cover Cabin Safety and possibly Maintenance Safety; conduct a one-year evaluation period with several airlines on the use and validity of the OFSH and incorporate those revisions to it; and share the OFSH with the worldwide aviation community, perhaps through regional operator workshops.

WG B: Analytical Methods and Tools – This working group conducted a survey of airline flight safety offices to determine their safety analysis needs. They then identified over 60 existing methods and tools potentially useful to the airlines and posted summaries of these items on the Consolidated Aviation Safety Tools and Links (CASTL) web site. The group also conducted a three-stage process for reviewing some of the most promising analytical tools for Relevance & Maturity, Value, and Operational Readiness. This last phase involved on-site evaluations of the tools with airline partners. Through October 2001, WG B plans include the following: Conduct Phase II of Operational Readiness reviews with partner airlines; continue to gather and document requirements for analytical methods and tools; develop and distribute a hierarchy of analytical tools needed for an airline flight safety office; explore the application of textual data mining tools to narrative-based safety event

reports in partnership with one or more airlines; expand the inventory to include air traffic management methods and tools; and promote the development of enhanced or new analytical tools to meet identified gaps in the capabilities of existing tools.

WG C: Global Information Sharing Prototypes - This group has developed two prototype systems for exchanging safety event reports among trusted groups in near-real time. The initial efforts have focused on systems to help airlines share using "standard sharing reports." WG C also developed the Consolidated Aviation Safety Tools and Links (CASTL) web site. WG C identified, screened, categorized, and provided links on CASTL to 100 publicly available aviation safety data and information websites from around the world. (Aviation safety professionals who would like to gain access to CASTL can contact Whit Kennon of Abacus Technology Corp. at *kennonw@hq.abacustech.com.)* Through October 2001, WG C plans include the following: conduct operational demonstrations of the "AvSoft" and "xwave" prototype airline sharing systems and demonstrate the interoperability of these systems; solicit additional airlines to join the prototype sharing systems; monitor international data standardization and aviation language translation efforts and integrate results of such efforts to improve the efficiency and effectiveness of sharing airline SSRs; expand, enhance, and increase awareness and use of the CASTL web-site; and identify and document other "automated" safety information sharing activities throughout the world.

Prospects Through 2001

With the 2000-2001 GAIN Action Plan established by the Steering Committee, three working groups working GAIN issues, and a Government Support Team to help foster GAIN goals and reduce impediments to sharing, the prospects for GAIN are very bright. GAIN is no longer "just a concept" but is a robust program producing products that promote and facilitate the voluntary collection and sharing of safety information. With continued commitment and hard work, GAIN will continue to make impressive progress as we move toward a Fifth GAIN World Conference tentatively planned for the Fall of 2001.

Invitation to Participate

Through the hard work of the individuals on the GAIN Working Groups, GAIN has made substantial progress, but much remains to be done. Interested volunteers from all aspects of the aviation safety community are encouraged to participate on these working groups, where a challenging and rewarding experience is all but guaranteed. Interested parties can find additional information about the GAIN program at the GAIN web-site:

www.gainweb.org.

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